

ECO-MARKETING DILEMMAS IN THE PRO-ENVIRONMENTAL ORIENTATION OF BUSINESS MANAGEMENT

Małgorzata ŁĘGOWIK-MAŁOLEPSZA^{1*}, Jaroslav KOLLMANN²

¹ Faculty of Management, Czestochowa University of Technology, Poland; m.legowik-malolepsza@pcz.pl, ORCID: 0000-0002-7698-9607

² Institute of Technology and Business in Ceske Budejovice, Department of Management; kollmann@vste.cz, ORCID: 0000-0003-4110-145X

* Correspondence author

Purpose: The study aims to provide a deeper insight into the dilemmas of eco-marketing in the pro-environmental orientation of business management by examining the correlations between cost efficiency and product price increases in the implementation of eco-marketing. The scientific novelty of the article lies in demonstrating a strong positive correlation between cost efficiency and product price increases in enterprises implementing eco-marketing within a pro-environmental management orientation.

Design/methodology/approach: The study employed literature review and statistical analysis using Spearman's rank correlation to investigate the relationship between cost efficiency and product price increases in the implementation of eco-marketing.

Findings: The results of the study indicate that there is a strong positive correlation between cost efficiency and product price increases in enterprises that implement eco-marketing in an pro-environmental management orientation.

Research limitations/implications: Further research in this area should take into account the complexity of decision-making processes in the implementation of an pro-environmental management orientation of the enterprise and the possibility of balancing costs and benefits of eco-marketing to improve efficiency in the short and long term.

Practical implications: A clear implication of the research is that a better understanding of the dilemmas of eco-marketing influences the perception of business costs and product prices through the prism of an pro-environmental orientation of business management. The results of the presented study could help enterprises understand how to increase competitiveness and strengthen their corporate image through eco-marketing.

Social implications: The study shows that companies that implement eco-marketing as part of an pro-environmental orientation strengthen their social responsibility, which can lead to more efficient resource management to reduce negative environmental impacts.

Originality/value: This article contributes to the discussion on the understanding of the dilemmas of eco-marketing in an pro-environmental orientation of business management by examining the relationship between cost efficiency and product price increases in the implementation of eco-marketing. The issue of understanding the dilemmas of eco-marketing is important and topical, as it enables the shaping of pro-environmental policies in business management.

Keywords: eco-marketing, pro-environmental corporate management corporate social responsibility.

Category of the paper: Research paper.

1. Introduction

Pro-environmental orientation in enterprise management is becoming a contemporary determinant of modern and responsible business. Enterprises implementing an pro-environmental orientation in enterprise management aim to achieve strategic goals, taking into account the principles of sustainable development and ecological responsibility. The implementation of an pro-environmental orientation can consist of the implementation of environmental management systems, changes in the supply chain, green innovation, eco-marketing, or education and communication with the environment. As a result, an pro-environmental orientation allows companies to achieve economic, social and environmental benefits, manifested in gaining competitive advantage, trust, and customer loyalty, as well as reducing the negative effects of the company's activities on the environment. Therefore, companies are increasingly taking account of environmental objectives by integrating them into their development, sales or marketing plans. In this context, eco-marketing is emerging, defined as an approach to marketing that is an integral part of the company, brand or product management process (Ziyadin et al., 2019). Eco-marketing consists of identifying and meeting consumer needs while taking into account, on the one hand, the principles of sustainable development and, on the other hand, the efficiency of the business (Klikovac-Katanić, Kosanović, 2012). However, the implementation of eco-marketing in the management of an enterprise may be associated with a number of dilemmas and challenges, which directly affect the level of product prices and cost efficiency. Based on this, the study aimed to provide a deeper insight into the dilemmas of eco-marketing in the pro-environmental orientation of business management by examining the relationship between cost efficiency and product price increases in the implementation of eco-marketing. The research methods used to achieve the objective are the critical analysis of the literature, a survey questionnaire, and Spearman's rank correlation analysis.

2. Problems of the implementation of eco-marketing in the context of an pro-environmental orientation of company management

Reflecting on the literature on the subject, it can be seen that the key problems associated with implementing an pro-environmental orientation in business management include the need to reconcile environmental and economic objectives (Remlein-Starosta, Krzysińska, 2013), the risk of greenwashing, (Wolniak, Hąbek, 2015) higher certification and production costs (Przygodzka, Kozłowska-Burdziak, Bąk, 2019), and difficulties in consumer education (Śmiechowska, 2011; Ruschak et al., 2023). Based on the literature on strategic management, it is possible to describe a theoretical model of eco-marketing dilemmas in enterprises implementing a pro-environmental management orientation (Vogtlander, Scheepens, Bocken, Peck, 2017). This model is based on three main dimensions: the economic-ecological model, the short-term versus long-term dilemmas model, and the internal versus external dilemmas model. Economic-ecological dilemmas involve the need to balance the costs of pro-environmental activities with the potential market benefits resulting from the implementation of eco-marketing. The second dimension refers to short-term and long-term dilemmas, where managers must choose between short-term profit maximization and long-term value creation for the enterprise through pro-environmental actions. Strategic management literature (Vilkaite-Vaitone, Skackauskiene, 2019) emphasizes that investments in eco-marketing and sustainable development may yield delayed benefits, such as increased customer loyalty, improved brand image, and access to new market segments. The third dimension concerns internal versus external dilemmas. On the one hand, the enterprise focuses on internal operational efficiency and cost minimization; on the other, it seeks to enhance its external image, corporate social responsibility, and relationships with stakeholders. By combining these three dimensions, the theoretical model of dilemmas highlights that enterprises face the necessity of balancing trade-offs between cost efficiency, pricing pressures, strategic orientation, and the expectations of both the market and society.

Research highlights that despite potential benefits for company image (Stefańska, 2016) and long-term savings (Mazur-Wierzbicka, 2016), companies often face barriers related to the need to restructure processes, market uncertainty and competitive pressures (Łuczka, 2016). The increase in the prices of eco-friendly products is often the result not only of higher manufacturing costs but also the result of financing complex communication and marketing strategies (Garbacz, 2004), which, combined with limited elasticity of demand, can negatively affect the profitability of the business.

In this context, the concept of eco-marketing emerges as a result of the implementation of pro-environmental orientation in business management (Astakhova, Astakhova, Reznikova, 2020). The fundamental dilemma of eco-marketing arises from the need to reconcile, on the one hand, the need to increase demand for pro-environmental products and, on the other

hand, to reduce the negative effects of the production and distribution of such products (Biernacki, 2017). Moreover, the implementation of the objectives of eco-marketing is associated with the need to incur expenditure on advanced technologies, staff training and the modification of the supply chain, which in the short term increases the costs of operations for companies pursuing an pro-environmental management orientation (Marques, Almeida, 2013).

The cost-effectiveness of an pro-environmental oriented enterprise should refer to the way in which the enterprise manages its resources to achieve positive results with the least possible financial outlay. However, paradoxically, aiming to reduce the negative impact on the environment, through the implementation of eco-marketing can lead to an increase in the variable costs of the enterprises' activities, so the implementation of eco-marketing may not affect the efficiency of the costs incurred. In this context, the following thesis can be formulated:

Thesis 1: "The implementation of eco-marketing does not affect the efficiency of the costs incurred".

It is worth noting that for enterprises in which the production of organic food requires the use of more expensive raw materials, the reduction of the scale of production or the abandonment of synthetic fertilisers, this can directly translate into a higher final price of products (Witek, 2018). On average, organic farms allocate 30% more financial resources to produce a unit of production compared to conventional ones (Nestorowicz, Pilarczyk, 2012; (Nestorowicz, Pilarczyk, 2014). This increases unit costs and translates into a higher price, resulting in a mismatch between environmental and economic objectives, causing a risk of loss of competitiveness, especially in price-sensitive markets. This can be expressed formally as the following thesis:

Thesis 2: "The use of eco-marketing increases product prices".

In conclusion, it is worth emphasising that the implementation of eco-marketing is a complex strategic challenge, requiring a profound transformation of the business models of companies oriented towards an pro-environmental approach to management. It should be noted that cost increases in the short term, associated with certification, production restructuring and market education, translate into long-term benefits including not only improvement of company image but also real operational savings. Therefore, when implementing an pro-environmental management approach, attention should be paid to identifying risk factors associated with, for example, greenwashing (Mesjasz-Lech, 2023) or targeting consumer groups (Jelonek, Pawełoszek, 2013). Future research in the field of the implementation of eco-marketing in the implementation of an pro-environmental orientation of company management should focus on assessing whether eco-marketing affects the efficiency of costs incurred in the company and increases product prices.

3. Research methodology and description of the sample

The study of eco-marketing in the pro-environmental orientation of enterprise management, part of which is presented here, was carried out using a survey questionnaire, as part of the author's own research. In the first stage of the research procedure, based on the analysis of the literature, the main conclusions of which were presented in the previous section of the article, two theses were formulated and expressed in the form of questions in the questionnaire. The first thesis: "The implementation of eco-marketing does not affect the efficiency of the costs incurred" and the second thesis: "The use of eco-marketing increases product prices", served as the basis for conducting the empirical research.

The survey was conducted using the CATI (Hair et al., 2014) method on a sample of 1025 enterprises operating in Poland. The population of the analysed enterprises were micro, small, medium-sized and large enterprises of the private sector. The respondents were senior managers of these enterprises. The questions in the survey questionnaire were rated by the respondents on a Likert scale, from 1 to 5, where 1 indicated "strongly disagree", and 5 "strongly agree" (Vogel, Koutsombogera, Costello, 2020). To analyse the correlation between the implementation of eco-marketing, which does not affect cost efficiency, and the use of eco-marketing, which increases product prices, Spearman's rank correlation was used in the second stage of the research procedure. The ranges in the analysis of the strength and direction of the Spearman's rank correlation were $[-1, +1]$ (Suchecky, 2013). The estimation of r_s is based on the assumption of perfect latent order and the assignment of quantiles according to the marginal data, which made it possible to conduct tests based on paired data in order for the adopted model to illustrate the mechanism of the analysed correlation.

The article focuses on providing a deeper insight into the dilemmas of eco-marketing in the pro-environmental orientation of corporate management. Particular attention was devoted to examining the impact of eco-marketing on changes in cost efficiency and product pricing.

4. Empirical research results

The conducted research aims to provide a deeper insight into the dilemmas of eco-marketing in the pro-environmental orientation of business management by examining the relationship between cost efficiency and product price increases in the implementation of eco-marketing. In the first stage of the research procedure, the frequency of responses was assessed for two questions from the survey questionnaire. The first question was: "The implementation of eco-marketing does not affect the efficiency of the costs incurred". The second question was: "The use of eco-marketing increases product prices". Table 1 shows the frequency of responses provided by respondents in percentage terms, on a five-point Likert scale.

Table 1.
Analysis of frequency

5-point Likert scale	The implementation of eco-marketing does not affect the efficiency of the costs incurred	The use of eco-marketing increases product prices
1 – strongly disagree	9.2%	9.2%
2 – disagree	10.6%	8.9%
3 – neither agree nor disagree	38.0%	18%
4 – agree	32.3%	38%
5 – strongly agree	9.9%	26%

Source: Author's compilation.

As can be seen from the data presented in Table 1, almost 42% of the respondents declared that they strongly agree and agree with the thesis that in their enterprise the implementation of eco-marketing does not affect the efficiency of the costs incurred. In addition, the study found that 64% of respondents strongly agreed and agreed that in their company the use of eco-marketing increases product prices. Therefore, it can be concluded that in the analysed companies, compensation for the costs incurred for the implementation of the eco-marketing measures is sought by increasing the price of the products. However, in such a case, the price increase must be offset by customer benefits (e.g. better quality, certified environmental care). Otherwise, customers may perceive the price increase as unjustified, which may undermine the effectiveness of the eco-marketing strategy.

In the second stage of the research procedure, Spearman's rank correlation coefficient was calculated. Testing the strength and direction of the relationship, Spearman's rank correlation was calculated as $r_s \approx 0.91$. The results obtained indicate a very strong, positive (monotonic) correlation between the answers to both questions. This means that respondents who express stronger agreement with the thesis that "the implementation of eco-marketing does not affect the efficiency of the costs incurred" (higher scores in Question 1) tend to express stronger agreement with the thesis that "The use of eco-marketing increases product prices" (higher scores in Question 2). The adopted latent order model suggests that the correlation between ranks is very systematic. Respondents were ordered according to a single characteristic that determines their responses. Therefore, the higher the "level of agreement" (or a certain attitude towards eco-marketing), the higher the scores obtained by both theses, resulting in a strong positive rank correlation.

5. Discussion

In attempting to understand the dilemmas of eco-marketing in the pro-environmental orientation of business management by examining the correlations between cost-effectiveness and product price increases in the implementation of eco-marketing, it is worth noting that, despite obtaining a statistically very strong correlation, there are some paradoxes arising from

respondents' perceptions of eco-marketing. Logically, it might seem that if eco-marketing does not affect cost efficiency, it should also not increase product prices. However, respondents seem to distinguish between the two aspects. This may mean that they perceive cost management efficiency as separate from pricing strategy, resulting in a consistent (but paradoxical) pattern of responses. It is possible that, according to the respondents, eco-marketing does not change the way a company incurs costs (e.g. operational costs remain under control). At the same time, respondents recognize eco-marketing activities (e.g. image change, product positioning) that can result in changes in product prices.

The strong positive Spearman's rank correlation suggests that respondents express their attitudes consistently. It is also possible that respondents with a more "optimistic" or "pessimistic" attitude, in the context of eco-marketing, indicate similar answers in both cases, even though the questions refer to different aspects of the company.

6. Conclusions

Summarising the considerations presented in this paper, it is worth emphasising that, despite generating higher operating costs at the initial stage of implementation, in the long term, eco-marketing can lead to improved efficiency by reducing energy consumption, reducing environmental penalties or increasing customer loyalty. When considering the dilemmas of eco-marketing in the context of the pro-environmental orientation of business management, it is worth noting that the implementation of eco-marketing is associated with some paradoxes that may affect the functioning of the enterprise on many levels. The implementation of eco-marketing solutions may generate an increase in operating costs, which may be the result of environmental certification or process modernisation. Maintaining ecological standards is often associated with higher operating costs, such as more expensive raw materials or specialised equipment, which can further increase costs. To compensate for increased costs, companies are forced to increase the price of products. However, the price level of the products must be acceptable to the customer and competitive in the market. The price increase must be compensated by clear benefits for the consumer (e.g. better quality, certified environmental care). Otherwise, consumers may perceive increases as unjustified, which would undermine the effectiveness of the marketing strategy. A difficulty that may arise from eco-marketing is a situation where a company simultaneously experiences cost increases and price increases, but does not observe commensurate improvements in efficiency. In such a case, the dilemma is whether to continue with the eco-marketing activities if the synergies are not visible or to abandon the expensive solutions, which could damage the image and market position.

It is worth emphasizing that the results of the presented research will be useful for managers in the decision-making process, as they provide guidance on implementing eco-marketing within a pro-environmental management orientation. They can be applied to optimize pricing strategies while taking into account the costs of pro-environmental activities. Another application of the research findings may involve building brand image through the effective use of eco-marketing or planning sustainable development policies and shaping pro-environmental business practices. Additionally, the research results may be valuable for scientists and policymakers involved in developing policies that support pro-environmental business management.

This study supports the currently prevailing view that ill-considered eco-marketing strategies carry the risk of greenwashing and loss of trust, which may consequently increase the cost of operations. Therefore, decisions to implement eco-marketing must take into account both the internal processes of the company and the expectations of the market. Directions of further research in this area should take into account the complexity of decision-making processes and the possibility of balancing costs and benefits to improve efficiency, in the short and long term. In the future, research in this area should focus on expanding the scope of analyzed variables and deepening the understanding of the relationships between costs, pricing strategies, brand image, and the effectiveness of pro-environmental activities. Among the key independent variables, it is worth considering the level of investment in eco-marketing, corporate social responsibility (CSR) strategies, and pro-environmental innovations. As dependent variables, future studies could examine cost efficiency, the shaping of pricing strategies, customer loyalty, and brand value. Additionally, moderating variables such as company size, industry, strategic orientation, and market maturity level should be included, as they may influence the strength of the relationship between eco-marketing implementation and business performance. Regarding research methodology, the use of advanced analytical techniques is recommended. The application of structural equation modeling (SEM) would allow for the examination of complex relationships between costs, prices, CSR, and enterprise competitiveness. An important direction for future studies is also the adoption of a longitudinal approach. Panel studies conducted over a period of 3-5 years would make it possible to monitor the long-term effects of eco-marketing implementation in enterprises. Such an approach would enable the assessment of how pro-environmental initiatives influence pricing strategies, cost efficiency, customer loyalty, and brand perception across different time horizons. Furthermore, it would be valuable to conduct comparative studies across industries and markets.

References

1. Astakhova, E., Astakhova, I., Reznikova, T. (2020). Greenwashing as a form of modern eco-marketing, *Acta Innovations*, no. 34, pp. 5-12.
2. Biernacki, M. (2017). Rachunek kosztów ELCC a ekomarketing w działalności przedsiębiorstw. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, 480, pp. 9-18.
3. Garbacz, L. (2004). Ekomarketing jako narzędzie budowania przewagi konkurencyjnej małych i średnich przedsiębiorstw. *Prace Naukowe Akademii Ekonomicznej we Wrocławiu, Przedsiębiorczość i innowacyjność małych i średnich przedsiębiorstw: wyzwania współczesności*, pp. 318-324.
4. Hair, J.F. et al. (2014). *Multivariate Data Analysis*. 7th Edition. Pearson Education, Upper Saddle 525 River, 129, pp. 282-288.
5. Jelonek, D., Pawełoszek, I. (2013). Technologie semantyczne w zarządzaniu platformą otwartych innowacji. *Informatyka Ekonomiczna*, 4(30), pp. 169-180.
6. Klikovac-Katanić, V., Kosanović, N. (2012). Implementation of Eco-Marketing During The Export Of Food Products From Vojvodina. *Agriculture & Forestry*, Vol. 58, Iss. 2. Podgorica, pp. 97-109.
7. Łuczka, W. (2016). Zrównoważona konsumpcja i uwarunkowania jej rozwoju. *Handel Wewnętrzny*, 365(6), pp. 136-145.
8. Marques, C., Almeida, D. (2013). A Path Model of Attitudinal Antecedents of Green Purchase Behaviour. *Economics & Sociology*, vol. 6, no. 2, pp. 135-144.
9. Mazur-Wierzbička, E. (2016). Odpowiedzialność wobec środowiska naturalnego w biznesie rodzinnym. *Przedsiębiorczość i Zarządzanie*, 17(6.3), pp. 229-238.
10. Mesjasz-Lech, A. (2023). Greenwashing and Corporate Environmental Irresponsibility—Improper Practices of Companies. *Scientific Papers of Silesian University of Technology. Organization & Management [Zeszyty Naukowe Politechniki Śląskiej. Seria Organizacja i Zarządzanie]*, no. 186, pp. 433-448.
11. Nestorowicz, R., Pilarczyk, B. (2012). Trendy w rozwoju dystrybucji żywności ekologicznej w Polsce. *Zeszyty Naukowe*, 237. Uniwersytet Ekonomiczny w Poznaniu, pp. 274-285.
12. Nestorowicz, R., Pilarczyk, B. (2014). Wyzwania wobec komunikacji marketingowej na rynku żywności ekologicznej w Polsce w świetle badań konsumentów. *Marketing i Rynek*, 8 [CD].
13. Przygodzka, R., Kozłowska-Burdziak, M., Bąk, M. (2019). Uwarunkowania opłacalności produkcji ekologicznej w opinii rolników województwa podlaskiego. *Roczniki Naukowe Stowarzyszenia Ekonomistów Rolnictwa i Agrobiznesu*, 21(1), pp. 83-91.
14. Remlein-Starosta, D., Krzywińska, J. (2013). Uwarunkowania środowiskowe, produkcyjne

- i ekonomiczne uprawy roślin na cele energetyczne. *Zagadnienia Doradztwa Rolniczego*, 71(1), pp. 71-81.
15. Ruschak, M., Caha, Z., Taliř, M., Konečný, M. (2023). The application of CSR in marketing communication and its potential impact on customer perceived value. *Journal of Entrepreneurship and Sustainability Issues*, 10(4), pp. 223-244.
16. Śmiechowska, M. (2011). Konsumpcja produktów ekologicznych—snobizm czy świadomy wybór. *Marketing i Zarządzanie*, 22, pp. 477-488.
17. Stefańska, M. (2016). Ekologia w strategiach przedsiębiorstw handlu detalicznego. *Handel we współczesnej gospodarce. Nowe wyzwania*. Poznań: Uni-Druk, pp. 161-172.
18. Suchecki, B. (Ed.) (2013). *Spatial Econometrics and Regional Economics Analysis*. Wydawnictwo Uniwersytetu Łódzkiego.
19. Vilkaite-Vaitone, N., Skackauskiene, I. (2019). Green marketing orientation: Evolution, conceptualization and potential benefits. *Open Economics*, Vol. 2, Iss. 1. Warsaw: De Gruyter, pp. 53-62, ISSN 2451-3458.
20. Vogel, C., Koutsombogera, M., Costello, R. (2020). Analyzing likert scale inter-annotator disagreement. In: *Neur. Approach. Dynam. Sig. 513 Exchang*. Singapore: Springer, pp. 383-393.
21. Vogtlander, J.G., Scheepens, A.E., Bocken, N.M.P., Peck, D. (2017). Combined analyses of costs, market value and eco-costs in circular business models: eco-efficient value creation in remanufacturing. *Journal of Remanufacturing*, 7, pp. 1-17.
22. Witek, L. (2018). Ceny produktów ekologicznych a zachowania konsumentów. *Handel Wewnętrzny*, 3(374), pp. 406-414.
23. Wolniak, R., Hąbek, P. (2015). Reporting process of corporate social responsibility and greenwashing. *International Multidisciplinary Scientific GeoConference: SGEM*, 5(3), pp. 483-490.
24. Ziyadin, S. et al. (2019). The Concept of Ecological Marketing and Features of Its Application. *Vision 2025*, pp. 11374-11379. <https://www-webofscience-com.ezproxy.techlib.cz/wos/woscc/full-record/WOS:000561117205057>